

REMARKS

Independent claim 43 has been added. No new matter has been added.

The Examiner rejected claims 33-41 under 35 U.S.C. 101 based on non-statutory subject matter. Claims 33 and 38, the two independent claims at issue, have been amended to address this concern.

The Examiner rejected claims 1 and 27 under 35 U.S.C. 102(b) as being anticipated by Xu et al. ("Mobile IP Based Micro Mobility Management Protocol in The Third Generation Wireless Network," Internet Draft, pp. 1-16, November 2000). This rejection is respectfully disagreed with, and is traversed below.

In the alleged application of Xu et al. to claims 1 and 27, the Examiner repeatedly equates a radio network node (RNN), as discussed by Xu et al., with a wireless local area network (WLAN), as disclosed and employed by the subject application. With all due respect, this is a mischaracterization of the technologies involved.

A RNN is "a required IP [internet protocol] element in cdma2000 networks" whose "main functionality is to direct PPP [point-to-point protocol] connection requests from TE [terminal equipment] to the appropriate PDSN [packet data serving node] that should handle the TE." Dehnie, Sintayehu, "Packet Data Service: CDMA 2000," Slides from CDMA2000 (3GPP2) Seminar, pp. 1-51, p. 6, Summer 2004.

As explained by Dao and Chan:

The third generation partner project 2 (CDMA2000) addresses wide area wireless networks. WLAN, on the other hand, is the dominant network for smaller areas. These two technologies possess complementary features. Combining these 2 technologies will address the need for a total wireless solution for both WAN and LAN. CDMA2000 networks will offer always-on, ubiquitous connectivity with

below 2 Mbps data rates. WLAN (802.11) offers much higher data rates, and is comparable to wired networks. However, the short coming is that it can cover only smaller areas, suitable for hot-spot applications in hotels, airport or shopping mall. The performance and flexibility of wireless data services would be dramatically improved if users could seamlessly roam across the two networks.

Dao, Thaison and Chan, H. Anthony, "Interworking between Wireless LAN and CDMA2000," Proceedings of the 29th Annual Conference of the IEEE Industrial Electronics Society, pp. 1215-1220, Nov. 1-6, 2003.

The differences between WLAN and CDMA2000 are very pronounced. The following comparison is by way of explanation, and not of limitation. A WLAN is primarily unlicensed and unregulated. The equipment required to support WLAN is generally inexpensive and the initial cost of investment is comparatively low. WLAN features high bandwidth, capable of reaching 11 Mbps for 802.11b or 54 Mbps for 802.11a, but at the cost of range. Each access point may only cover about 100 meters, inhibiting roaming. In comparison, CDMA2000 makes use of a licensed spectrum, directed by the government, whose usage is regulated. The equipment involved is generally expensive but offers a significantly greater degree of mobility as each cell can cover a large geographical area. The initial cost of investment is comparatively high and CDMA2000 suffers from low bandwidth, capable of only 2 Mbps. Chan, H. Anthony and Dlodlo, Mqhele, "EEE402F-A / EEE525Z Wireless Networks and Systems, " Interworking Wireless Networks 10-100, pp. 1-20, p. 7, 2005.

Xu et al. specifically discuss "the interface between a radio network and a packet data network in **the third generation cdma2000 network.**" (Xu et al., Abstract and Introduction.) (emphasis added) As is apparent, Xu et al. are discussing CDMA2000 networks. Nowhere in their paper do they discuss WLAN technology, the interaction of cellular networks with WLAN technology, nor managing handoffs from a WLAN to a cellular network.

Xu et al. further describe the interface:

The interface between the RNN and the PDSN is called the RP [radio-packet] interface. This interface requires mobility management for handling handoff from one RNN to another without interrupting end to end communication.

Xu et al., Abstract and Introduction.

One should note that, as stated immediately above, Xu et al. explicitly state that their concern, and publication, relates to "mobility management for handling handoff **from one RNN to another.**" (emphasis added) In contradistinction, the subject application involves handoffs **from a WLAN to a cellular network.** These are different handoffs involving different technologies presenting different obstacles. Although suggested otherwise by the Examiner, the two handoffs listed here are distinct and nonequivalent.

One should note that the handover discussed by Xu et al. takes place within the purview of one PDSN. That is, the two RNNs, between whom the handoff occurs, are attached to the same PDSN.

As explained by Young:

The radio-packet (R-P) interface is the link between the RN [radio network] and the PDSN. Here, the radio-dependant part of the network connects with packet data network elements. The R-P interface maintains the logical connection for the communication session. The R-P session must remain intact, even when no data packets are being passed between the MS [mobile station] and the HA [home agent]. When the MS moves from one RN to another, the R-P session moves to the new RN. However, if the MS moves to another PDSN, a new R-P session is established. The MS and PDSN establish a PPP link after the RN and PDSN establish the R-P link.

Young, Ray, "Wireless IP—Internet Without Wires," Technical Notes, Office of the Manager, National Communications System, Technology and Programs Division, Vol. 7, No. 4, Aug. 2000.

Hence, the RP interface, which is *specifically* what Xu et al. discuss, is directly related to the link between a RNN and a PDSN. Links between a RNN and a PDSN and protocols relating thereto,

as Xu et al. also note, apply to cellular networks, such as CDMA2000 networks. CDMA2000 is notably distinct from WLAN. In fact, as Dao and Chan observe in the quoted passage above, seamless roaming across WLAN and CDMA2000 is very desirable. Moreover, this desirable outcome, as relating to handoffs from WLAN to CDMA2000, is an object of the invention disclosed in the subject application.

Based on the above explanations and arguments, it is clear that Xu et al. cannot be seen to anticipate claims 1 and 27. Applicants respectfully request that the Examiner reconsider and remove the rejections of claims 1 and 27 for this reason.

The Examiner rejected claims 1-6, 23, 26-28, 31-34, 37-40, and 42 under 35 U.S.C. 103(e) as being anticipated by Purnadi et al. (U.S. Patent No. 6,708,031). This rejection is respectfully disagreed with, and is traversed below.

As an initial matter, Applicants would like to note that the Examiner, in discussing the rejection of claim 1 based on Purnadi et al., explicitly equates a wireless local area network (WLAN) to CDMA2000. (Office Action, no. 4, p. 5, line 3.) As explained above, this is an incorrect classification of the technologies. Applicants repeat and reassert the WLAN/CDMA2000 distinctions drawn above.

Here, as above with Xu et al., and with all due respect, Applicants fear that the Examiner is mischaracterizing the technologies being discussed.

The problem(s) to which the invention of Purnadi et al. is directed is described as:

There is thus a disadvantage and a problem to be solved of allowing a communications network to include a packet switched network which is not specified for use with the wireless access network installed in the communications network. In particular, the solution to such a problem must allow subscribers of the wireless access network to access and roam between cellular networks and, preferably, access the same services available in their home network when they are visiting in other networks. Therefore, procedures

must be developed between the packet switched network and the wireless access network for initiating a new session or providing a handoff for a subscriber of the wireless access network.

Purnadi et al., Background, col. 1, line 58-col. 2, line 3.

Note that Purnadi et al. specify that "the solution to such a problem must allow subscribers of the wireless access network to access and roam between cellular networks." Cellular networks and technologies appear to be the primary concern of their invention.

Purnadi et al. do not disclose any networks or network systems involving, relating to, or connecting with a WLAN. The figures illustrate cellular network architectures and components, including items such as a RN 402 and PDSN 403. Although the Examiner cites the WGW (wireless gateway) 503 as communicating with the mobile station (MS) 501, the WGW 503 initiates GPRS operations (col. 7, line 65-col. 8, line 25) which are operations relating to cellular technologies and systems. Hence, the disclosures by Purnadi et al. relate to cellular technologies and not technologies similar to WLAN, which, as was explained above, is notably distinct from cellular technologies and systems, such as CDMA2000.

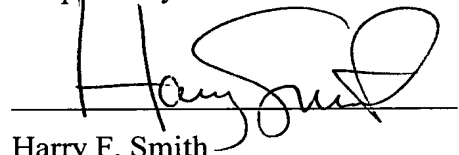
Based on the above explanations and arguments, it is clear that Purnadi et al. cannot be seen to anticipate claims 1-6, 23, 26-28, 31-34, 37-40, and 42. Applicants respectfully request that the Examiner reconsider and remove the rejections of claims 1-6, 23, 26-28, 31-34, 37-40, and 42 for this reason.

The Examiner rejected claims 7-22, 24, 25, 29, 30, 35, 36, and 41 under 35 U.S.C. 103(a) as being unpatentable over Purnadi et al. in view of Malki et al. ("Low Latency Handoff in Mobile IPv4," Internet Draft, pages 1-65, May 2001). This rejection is respectfully disagreed with, and is traversed. Applicants reassert the arguments made above with regards to the application of Purnadi et al. to the subject application. In that Purnadi et al. is inapplicable, claims 7-22, 24, 25, 29, 30, 35, 36, and 41 cannot be seen as unpatentable over Purnadi et al. in view of Malki et al.

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Art Unit: 2666

The Examiner is respectfully requested to reconsider and remove the rejections of claims 33-41 under 35 U.S.C. 101, claims 1 and 27 under 35 U.S.C. 102(b) as being anticipated by Xu et al., claims 1-6, 23, 26-28, 31-34, 37-40, and 42 under 35 U.S.C. 103(e) as being anticipated by Purnadi et al., and claims 7-22, 24, 25, 29, 30, 35, 36, and 41 under 35 U.S.C. 103(a) as being unpatentable over Purnadi et al. in view of Malki et al., and to allow all of the pending claims 1-43 as now presented for examination. An early notification of the allowability of claims 1-43 is earnestly solicited.

Respectfully submitted:


Harry F. Smith

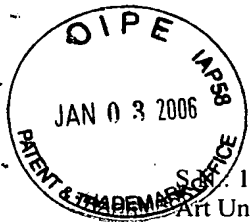
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